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than ordinary room temperature the spores of *Alsophila* and *Aneimia* could not be induced to germinate in darkness. Germination was best in light of medium intensity (about 0.075 sunlight). Weaker light induced filamentous or ribbon-like prothallia, while strong light induced heart-shaped prothallia. Strong light (intensity 0.3) cause the production of only archegonia in *Alsophila*, while in the other ferns both sex organs were produced. Weak light inhibits the production of archegonia and favors the production of antheridia.—J. M. C.

**Poisonous action of salts.**—BENECKE<sup>11</sup> mingles with a strong polemic against LOEW an account of experiments which go to show that various salts collectively harmless are individually poisonous to *Spirogyra*, but have their toxic action neutralized by calcium salts. The chlorids, nitrates, sulfates, and phosphates of sodium, potassium, magnesium, and iron are more or less poisonous. The cations Fe and Mg are more poisonous than K, itself more poisonous than Na; of the anions named the phosphate, sulfate, and nitrate are more poisonous than chlorion. The toxicity of both anions and cations may be removed or diminished by the addition of Ca ions.

These results are essentially those obtained by OSTERHOUT and DUGGAR, the chief difference being that BENECKE ascribes to Ca a special antitoxic property toward other salts.—C. R. B.

**Respiration and pollination.**—When the gynaecium begins its second phase of development, after pollination, the respiratory activity might be expected to differ from that of an unpollinated one, but no comparative determinations seem to have been made. This has now been done by Miss JEAN WHITE,<sup>12</sup> using the Bonnier-Mangin apparatus for gas analysis. With due precautions she finds this apparatus, as modified by AUBERT, entirely satisfactory. "The net result of the whole work is to show that pollination not only produces a rapid rise of the respiratory activity, but also affects the respiratory quotient," which is usually less than unity and larger in the pollinated than in the unpollinated gynaecium. The numerical data show such extraordinary differences, under presumably like conditions, as to raise serious question regarding the value of the observations.—C. R. B.

**Embryology of *Oxalis*.**—HAMMOND<sup>13</sup> has investigated *O. corniculata* and records that the single hypodermal archesporial cell does not give rise to any parietal tissue, but functions directly as the megasporangium, which he calls the megasporangium; that the antipodal cells disappear soon after fertilization; and that the basal cells of the suspensor form a very active haustorium.—J. M. C.

<sup>11</sup> BENECKE, W., Ueber die Giftwirkung verschiedener Salze auf *Spirogyra*, und ihre Entgiftung durch Calciumsalze. Ber. Deutsch. Bot. Gesells. **25**:322-337. 1907.

<sup>12</sup> WHITE, JEAN, The influence of pollination on the respiratory activity of the gynaecium. Annals of Botany **21**:487-499. 1907.

<sup>13</sup> HAMMOND, HOWARD S., The embryology of *Oxalis corniculata*. Ohio Nat. **8**:261-264. pl. 18. 1908.